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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,101	11/18/2003	Robert H. Breeden	6-3714	6129

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EXAMINER	
FRANTZ, JESSICA L	
ART UNIT	**PAPER NUMBER**
3746	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/716,101	BREEDEN, ROBERT H.	
	Examiner	Art Unit	
	Jessica L. Frantz	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *2/20/2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 5-22* is/are pending in the application.

4a) Of the above claim(s) *4* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 November 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/2/04, 11/18/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. This Action is in response to the Applicant's Election Response received 2/20/2007. Upon further consideration, it is determined that claims 1, 19, 20 and 22 are generic to all species as kindly pointed out by Applicant. Furthermore, Species 4, claims 1-3, 5-11 and 13-22, have been elected while claims 4 and 12 have been withdrawn. However, as discussed by applicant, it is apparent that claim 12 also reads on the elected species and is therefore examined on the merits. Claim 4, however, does not appear to read on the elected species and therefore, stands withdrawn.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the structure of the various valves must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 19-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Specifically, it appears in claim 19 that steps a and b are backwards. In the claimed step a, when more pressure in the line is desired the valve in the first flow path is opened and fluid flows into the chamber which would then urge the valve closed and therefore, decrease the amount of pressure in the line. Likewise, in step b,when lower pressure is desired, the claim states that the valve in the first flow path is closed thus not allowing and fluid to flow into the chamber in order to close and decrease the pressure in the line. The specification describes the invention in the opposite manner on page 7 lines 1-22.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-3, 5-18, 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arnold et al. 6,293,253 in view of Ramseyer et al. 6,439,199. Arnold teaches the invention substantially as claimed including a pump assembly as shown in figure 1 for flowing high pressure liquid to one or more components of an internal combustion engine (not labeled see column 4, lines 42-46) having a sump 16, the pump assembly including a high-pressure pump 10; a pump inlet passage (not labeled), a pump outlet passage (not labeled), a hydraulic inlet throttle valve 22 for flowing liquid to the pump through the inlet passage, the inlet throttle valve including a spool (not labeled) movable between open and closed positions, an inlet throttle spring 24 biasing the spool toward the open position, a hydraulic chamber (not labeled), the spool including a piston (not labeled) forming a wall of the hydraulic chamber wherein liquid of the chamber biases the spool toward the closed position against the spring 24 (see column 4 line 65-column 5, line12 and column 6 lines 17-20); and a hydraulic circuit (not labeled see figure 1) including a first flow path (not labeled see figure 1) extending from the outlet passage to the inlet throttle valve chamber; a second flow path (not labeled see figure 1) extending from the inlet throttle valve chamber to the sump 16, and a first fast acting two position on/off normally closed control valve 30 located in said first flow

path, such control valve including a first valving member (not labeled see column 5, lines 15-18) having a fully open valve position and a fully closed valve position, a first spring (not labeled see figure 1) biasing the valving member to the closed position, a first solenoid (not labeled see figure 1) for moving the valving member toward the fully open position when actuated, wherein actuation and deactuation of the solenoid rapidly shifts the valving member between the open and closed positions without modulating flow through the valve 30 to flow liquid from the outlet passage to the inlet throttle valve or isolate the inlet throttle valve from the outlet passage. Arnold further teaches a second valve 34 located in the second flow path and the inlet throttle valve 22 is opened via the bias of the spring 24 at startup of the engine as shown in figure 1. Regarding claim 6, it is a mere matter of design choice to switch the biases of the spring and solenoid so that the solenoid acts to open the valve 30 and the spring tends to close it. The rearrangement of the biases presents no novel or unexpected result over biases used in the references. Use of such biases in lieu of those used in the references solves no stated problem and would be an obvious matter of design choice within the skill of the art. In re Launder, 42 CCPA 886, 222 F.2d 371, 105 USPQ 446 (1955); Flour City Architectural Metals v. Alpana Aluminum Products, Inc., 454 F. 2d 98, 172 USPQ 341 (8th Cir. 1972); National Connector Corp. v. Malco Manufacturing Co., 392 F.2d 766. 157 USPQ 401 (8th Cir.) cert. denied, 393 U.S. 923, 159 USPQ 799 (1968). Arnold further teaches the hydraulic circuit includes a pressure line 26 connected to the inlet throttle valve chamber, the pressure line forming a portion of the first flow path and the second flow path. Regarding claim 13, it is again a mere mater of design choice to

select a normally open valve instead of the prior art's normally closed valve 30. The selection of a normally open valve presents no novel or unexpected result over the selection of a normally closed valve 30 used in the references. Use of such a valve in lieu of those used in the references solves no stated problem and would be an obvious matter of design choice within the skill of the art. In re Launder, 42 CCPA 886, 222 F.2d 371, 105 USPQ 446 (1955); Flour City Architectural Metals v. Alpana Aluminum Products, Inc., 454 F. 2d 98, 172 USPQ 341 (8th Cir. 1972); National Connector Corp. v. Malco Manufacturing Co., 392 F.2d 766. 157 USPQ 401 (8th Cir.) cert. denied, 393 U.S. 923, 159 USPQ 799 (1968). Arnold further teaches the method of using the pump circuit by increasing flow of liquid through the inlet throttle valve 22 and the high pressure pump 10 when the pressure in the outlet passage is less than a desired pressure by closing an on/off valve 30 in the first flow path and flowing liquid in the hydraulic chamber to the sump 16 and decreasing flow of liquid through the inlet throttle valve 22 and to the high-pressure pump 10 when the pressure in the outlet passage is greater than the desired pressure by opening an on/off valve 30 in the first flow path to flow high-pressure liquid from the outlet passage to the hydraulic chamber (see column 5, line 49- column 6, line 20). Arnold further teaches maintaining a flow of liquid through the inlet throttle valve 22 and to the high-pressure pump 10 to maintain a pressure in the outlet passage by preventing flow of liquid to or from the hydraulic chamber and alternating flowing of high pressure liquid from the outlet passage to the hydraulic chamber; or flowing liquid from the hydraulic chamber to the sump 16 (see column 5, line 49- column 6, line 20). Arnold teaches the claimed invention as discussed above

but fails to teach the following claimed limitations that are taught by Ramseyer: the second flow path includes a second fast-acting two position on/off control valve 204 including a second solenoid 225 and second valving member not labeled see figure 10 where the solenoid actuators of the system's electrical valves are controlled via an ECM 18 giving them the ability to meter flow through the system valves (see Ramseyer column 11, lines 27-33) with a quick response time (see Ramseyer column 4, lines 55-59). Ramseyer further teaches a restriction 260 located in a pressure line (not labeled that when placed in the pressure line 26 of Arnold, will slow movement of the inlet throttle valve (22 of Arnold) spool toward the closed position by reducing the pressure of flow to the inlet throttle valve (22 of Arnold). Also, since Arnold teaches the pressure line 26 forms a portion of both the first and second flow paths, the restriction 260 of Ramseyer is therefore, in both the first and second flow paths. Ramseyer teaches the inclusion of this restriction 260 for the purpose of creating a pressure differential to control flow (see Ramseyer column 14, lines 57-60). Therefore it would have been obvious to include a solenoid operated valve in the second flow path to give the ability to meter flow through the system valves (see Ramseyer column 11, lines 27-33) with a quick response time (see Ramseyer column 4, lines 55-59) and the restriction for the purpose of creating a pressure differential to control flow (see Ramseyer column 14, lines 57-60).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure : Van Der Sluis 6,196,806.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica L. Frantz whose telephone number is 571-272-5822. The examiner can normally be reached on Monday through Friday 8:30a.m.-5:00p.m. E.S.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on (571)272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jessica Frantz

JF 3/15/2007

MICHAEL KOCZO
PRIMARY EXAMINER
AU 3746